

## ABSTRACT

The present invention provides a hard drive assembly and a related method for measuring the velocity of a transducer head during a ramp load/unload. To achieve these and other advantages and in accordance with the purposes of the present invention, as embodied and broadly described, a method and apparatus for controlling the velocity of a read/write disk head during a ramp load/unload are disclosed. The method includes measuring, amplifying, and transporting to a microprocessor the voltages across a voice coil motor ( $V_{\text{motor}}$ ) and a sense resistor ( $V_{\text{Rsense}}$ ). The method further includes calculating the  $V_{\text{bemf}}$  voltage of the VCM and making real-time adjustments to the VCM velocity. The apparatus used to control the velocity of a read/write disk head during a ramp load/unload includes a driver circuit that powers the VCM, a multiplexer, an analog-to-digital converter (ADC), and a microprocessor. The microprocessor typically calculates the VCM velocity based on a measured  $V_{\text{bemf}}$  voltage.